

Riboproteins P0, P1, and P2

dsDNA

Nucleosome

Ku

Centromere A

Centromere B

Scl-70

Pm-Scl

RNA-Polymerases 1, 2, and 3

Th

Jo-1

Mi-2

PL7

PL12

SRP

IN THE CLAIMS:

Cancel claim 11 and amend claims 1, 2, 3, 7, and 8 to read as shown in the following clean versions. These claims are reproduced in Appendix B hereto with markings to show the changes made by this amendment.

- Sub B1
Ad
- 1 1. (amended) A method for the identification of a systemic autoimmune
 - 2 disease in a test subject suspected of suffering from an otherwise unidentified systemic
 - 3 autoimmune disease selected from the group consisting of systemic lupus erythematosus,
 - 4 scleroderma, Sjögren's syndrome, polymyositis, dermatomyositis, CREST, and mixed
 - 5 connective tissue disease, said method comprising:
 - 6 (a) analyzing a single biological sample from said test subject for the
 - 7 presence and amounts of a plurality of autoantibodies to produce a test data set;

8 (b) comparing said test data set to a library of reference data sets, each
9 reference data set obtained from a biological sample of a reference subject known
10 to have a systemic autoimmune disease of known identity; and

11 (c) applying pattern recognition means selected from the group consisting
12 of k-nearest neighbor analysis, multi-linear regression analysis, Bayesian
13 probabilistic reasoning, and principal component analysis to produce a
14 statistically derived decision indicating which systemic autoimmune disease said
15 test subject is suffering from.

1 2. (amended) A method in accordance with claim 1 in which said test
2 subject is suffering from two otherwise unidentified systemic autoimmune diseases, and
3 step (c) comprises applying pattern recognition means to produce a statistically derived
4 decision indicating which two systemic autoimmune diseases said test subject is suffering
5 from.

1 3. (amended) A method in accordance with claim 1 in which said pattern
2 recognition means is a member selected from the group consisting of k-nearest neighbor
3 analysis, multi-linear regression analysis, and Bayesian probabilistic reasoning.

1 7. (amended) A method in accordance with claim 1 in which said
2 plurality of autoantibodies comprises antibodies to at least fifteen of the following
3 antigens:

4 SSA 60,
5 SSA 52,
6 SSB 48,
7 Sm BB',
8 Sm D1,
9 RNP 68,
10 RNP A,
11 RNP C,

12 Fibrillarin,
13 Riboproteins P0, P1, and P2,
14 dsDNA,
15 Nucleosome,
16 Ku,
17 Centromere A,
18 Centromere B,
19 Scl-70,
20 Pm-Scl,
21 RNA-Polymerases 1, 2, and 3,
22 Th,
23 Jo-1,
24 Mi-2,
25 PL7,
26 PL12, and
27 SRP.

1 8. (amended) A method in accordance with claim 1 in which said
2 plurality of autoantibodies comprises antibodies to each of the following antigens:

3 SSA 60,
4 SSA 52,
5 SSB 48,
6 Sm BB',
7 Sm D1,
8 RNP 68,
9 RNP A,
10 RNP C,
11 Fibrillarin,
12 Riboproteins P0, P1, and P2,

A3